PATENT COOPERATION TREATY

From the
INTERNATIONAL SEARCHING AUTHORITY

To:
LEE CREWS
FISH & RICHARDSON P.C.
225 FRANKLIN STREET
BOSTON, MA 02110-2804

PCT

WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY

(PCT Rule 43*bis*.1)

	Date of mailing (*day/month/year*) 06 DEC 2005
Applicant's or agent's file reference 12610-020WO1	FOR FURTHER ACTION See paragraph 2 below

International application No.	International filing date (*day/month/year*)	Priority date (*day/month/year*)
PCT/US04/37511	08 November 2004 (08.11.2004)	07 November 2003 (07.11.2003)

International Patent Classification (IPC) or both national classification and IPC

IPC(7): A61K 39/00, 39/38, 39/12, 39/385, 39/295, 39/40, 39/42, 38/00, 38/17; A01N 37/18 and US Cl.: 424/184.1, 185.1, 186.1, 192.1, 193.1, 196.11, 197.11, 201.1, 202.1, 130.1, 133.1, 134.1; 514/2, 12

Applicant

UNIVERSITY OF ROCHESTER

1. This opinion contains indications relating to the following items:

- ☒ Box No. I — Basis of the opinion
- ☐ Box No. II — Priority
- ☐ Box No. III — Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- ☐ Box No. IV — Lack of unity of invention
- ☒ Box No. V — Reasoned statement under Rule 43*bis*.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- ☐ Box No. VI — Certain documents cited
- ☐ Box No. VII — Certain defects in the international application
- ☐ Box No. VIII — Certain observations on the international application

2. **FURTHER ACTION**

If a demand for international preliminary examination is made, this opinion will be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA") except that this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1*bis*(*b*) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of 3 months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

3. For further details, see notes to Form PCT/ISA/220.

Name and mailing address of the ISA/ US	Date of completion of this opinion	Authorized officer
Mail Stop PCT, Attn: ISA/US Commissioner for Patents P.O. Box 1450 Alexandria, Virginia 22313-1450 Facsimile No. (571) 273-3201	22 November 2005 (22.11.2005)	Olga N. Chernyshev Telephone No. (571) 272-1600

Form PCT/ISA/237 (cover sheet) (April 2005)

WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY

International application No.
PCT/US04/37511

Box No. I Basis of this opinion

1. With regard to the language, this opinion has been established on the basis of:

☒ the international application in the language in which it was filed

☐ a translation of the international application into _____, which is the language of a translation furnished for the purposes of international search (Rules 12.3(a) and 23.1(b)).

2. With regard to any nucleotide and/or amino acid sequence disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of:

a. type of material

☐ a sequence listing

☐ table(s) related to the sequence listing

b. format of material

☐ on paper

☐ in electronic form

c. time of filing/furnishing

☐ contained in the international application as filed.

☐ filed together with the international application in electronic form.

☐ furnished subsequently to this Authority for the purposes of search.

3. ☐ In addition, in the case that more than one version or copy of a sequence listing and/or table(s) relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.

4. Additional comments:

WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY

International application No.
PCT/US04/37511

Box No. V Reasoned statement under Rule 43 *bis*.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Claims 2, 3, 8, 9, 20, 21, 23, 24, 26-48	YES
	Claims 1, 4-7, 10-19, 22, 25	NO
Inventive step (IS)	Claims 2, 20, 26, 28-48	YES
	Claims 1, 3-19, 21-25, 27	NO
Industrial applicability (IA)	Claims 1-48	YES
	Claims NONE	NO

2. Citations and explanations:

Claims 1, 4-7, 10-19, 22 and 25 lack novelty under PCT Article 33(2) as being anticipated by Schenk. Schenk teaches administration of Aβ to treat neurodegenerative diseases.

Claims 3, 21 and 27 lack an inventive step under PCT Article 33(3) as being obvious over Schenk in view of Harris et al.. Schenk does not teach the use of keyhole limpet hemocyanin as a molecular adjuvant but otherwise teaches all of the claimed method of treatment of neurodegenerative diseases by administration of A . Harris et al. disclose the advantages to use keyhole limpet hemocyanin for immunostimulatory purposes. Since the art at the time of invention clearly indicates the advantages of additive use of keyhole limpet hemocyanin, it would have been obvious to one of ordinary skill in the art at the time this invention was made to employ keyhole limpet hemocyanin as a molecular adjuvant to be administered with Aβ.

Claims 8-9, 23 and 24 lack an inventive step under PCT Article 33(3) as being obvious over Schenk in view of Sena-Esteves et al.. Schenk does not teach the use of HSV amplicon vectors to contain nucleic acid encoding A peptides but otherwise teaches all of the claimed method of treatment of neurodegenerative diseases by administration of A . Sena-Esteves et al. disclose the advantages to use HSV amplicon vectors. Because the advantages of use of HSV-based vectors are fully disclosed by Sena-Estaves et al., it would have been obvious to one of ordinary skill in the art at the time this invention was made to employ HSV-based amplicon vector system to contain nucleic acid to encode amyloid protein to be administered to treat neurodegenerative diseases as disclosed by Schenk.

Claims 2, 20, 26 and 28-48 meet the criteria set out in PCT Article 33(2)-(3), because the prior art does not teach or fairly suggest methods of treating a patient with neurodegenerative disease characterized by accumulation of extracellular plaques by administration of A and tetanus toxin as a molecular adjuvant.

Claims 1-48 meet the criteria set out in PCT Article 33(4), and thus have industrial applicability because the subject matter claimed can be made or used in industry.